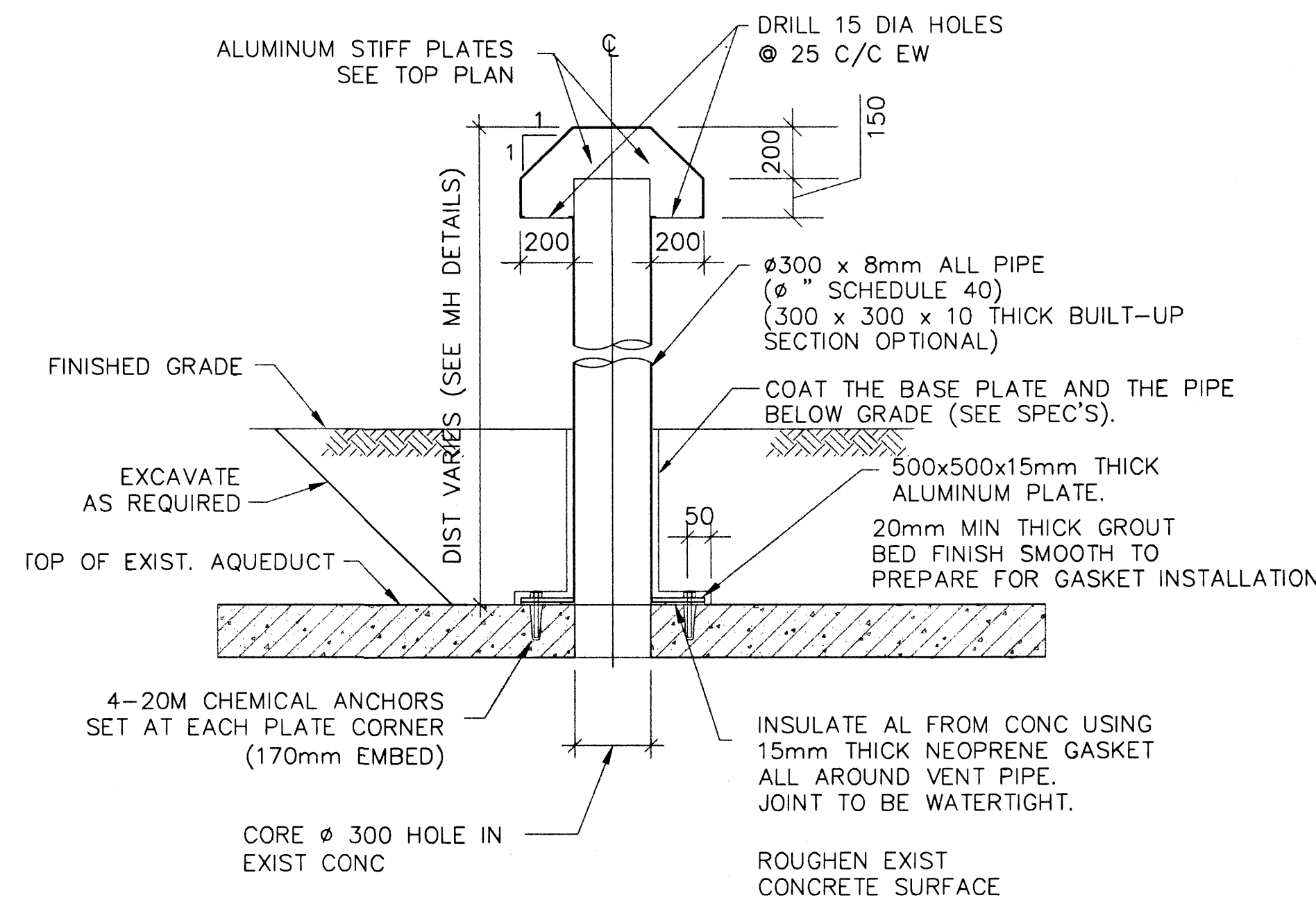
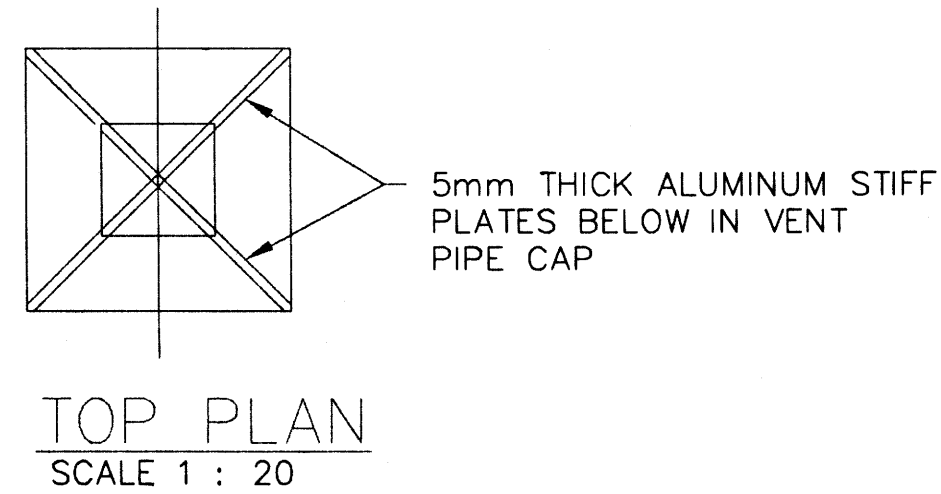


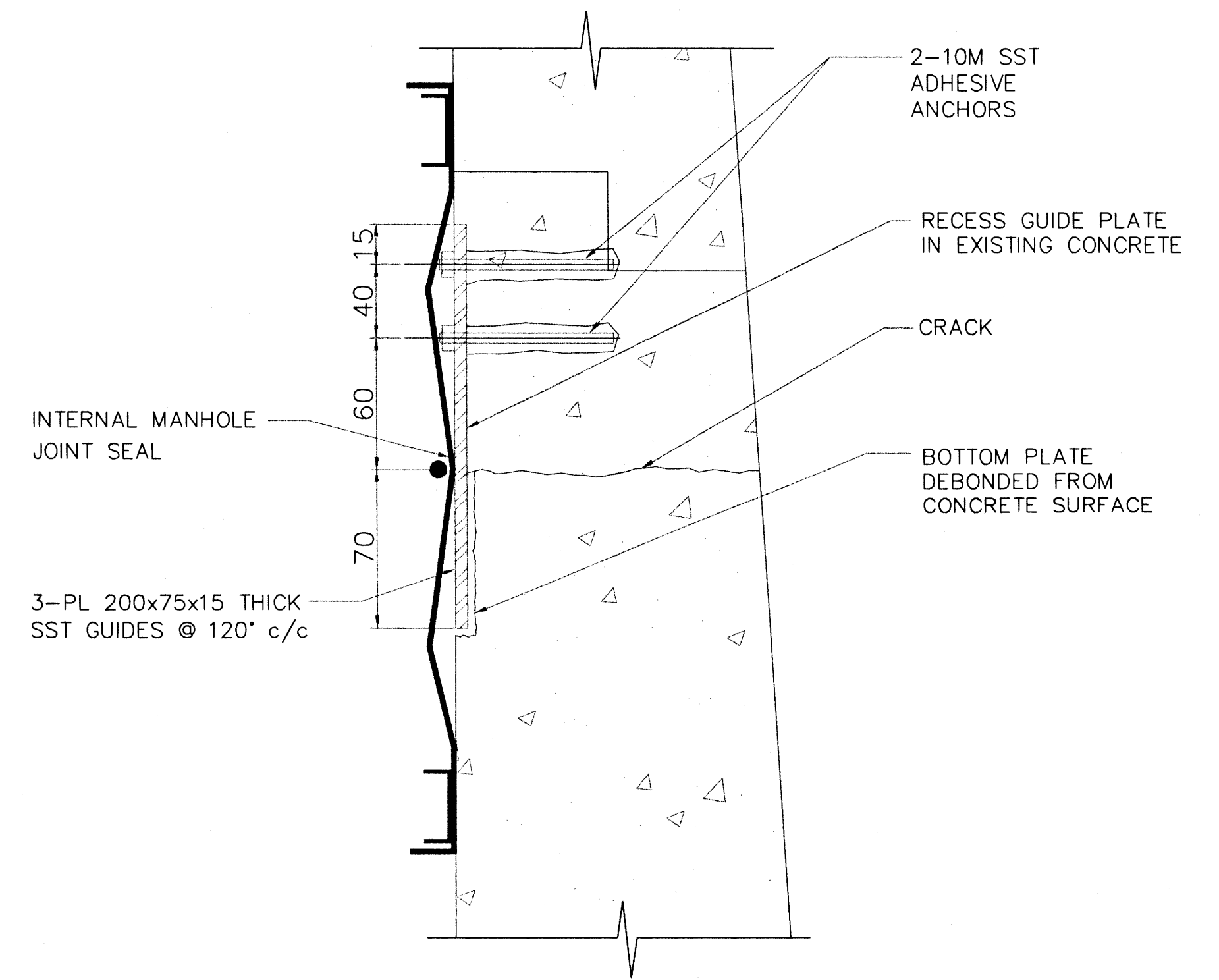
ABBREVIATIONS

AB	ANCHOR BOLT	JT	JOINT
AL	ALUMINUM	LL	LIVE LOAD
ALT	ALTERNATE	LPT	LOW POINT
BH	BOATHOUSE	MAX	MAXIMUM
BM	BEAM	MH	MANHOLE
BOT	BOTTOM	MID	MIDDLE
BP	BASE OR BEARING PLATE	MIN	MINIMUM
C/C	CENTRE TO CENTRE	MISC	MISCELLANEOUS
CHKD	CHECKED	MW	MEMBRANE WATERPROOFING
CIPC	CAST-IN-PLACE CONCRETE	No	NUMBER
CJ	CONSTRUCTION JOINT	NTS	NOT TO SCALE
CL	CENTRE LINE	OD	OUTSIDE DIAMETER
CLJ	CONTROL JOINT	OPNG	OPENING
COL	COLUMN	OPP	OPPOSITE
CONC	CONCRETE	P	PLATE
CONT	CONTINUOUS	PVC	POLYVINYL CHLORIDE
CW	CHEMICAL WATERPROOFING	R	RADIUS
Ø	DIAMETER	REINF	REINFORCING STEEL BAR
DIM	DIMENSION	REQD	REQUIRED
DWG	DRAWING(S)	SEP JT	SEPARATION JOINT
DWL	DOWEL(S)	SIM	SIMILAR
EF	EACH FACE	SPEC	SPECIFICATION
EL	ELEVATION	SMH	STANDARD MANHOLE
EQ	EQUAL	SST	STAINLESS STEEL
EQPT	EQUIPMENT	STD	STANDARD
ES	EACH SIDE	STGR	STAGGERED
EW	EACH WAY	STIF	STIFFENER
EXIST	EXISTING	SYM	SYMMETRICAL
EXP JT	EXPANSION JOINT	T&B	TOP AND BOTTOM
FD	FLOOR DRAIN	TOC	TOP OF CONCRETE
FIN	FINISH	TOS	TOP OF STEEL
FTG	FOOTING	Typ	TYPICAL
GALV	GALVANIZED	U/S	UNDERSIDE
GID	GROUTED-IN DOWEL	UNO	UNLESS NOTED OTHERWISE
GRAN	GRANULAR	V/P	VENT PIPE
GWL	GROUND WATER LEVEL	VERT	VERTICAL
GWWD	GREATER WINNIPEG WATER DISTRICT	WWF	WELDED WIRE FABRIC
HORIZ	HORIZONTAL		
HPT	HIGH POINT		
HWL	HIGH WATER LEVEL		
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
INSUL	INSULATION		
INV	INVERT		

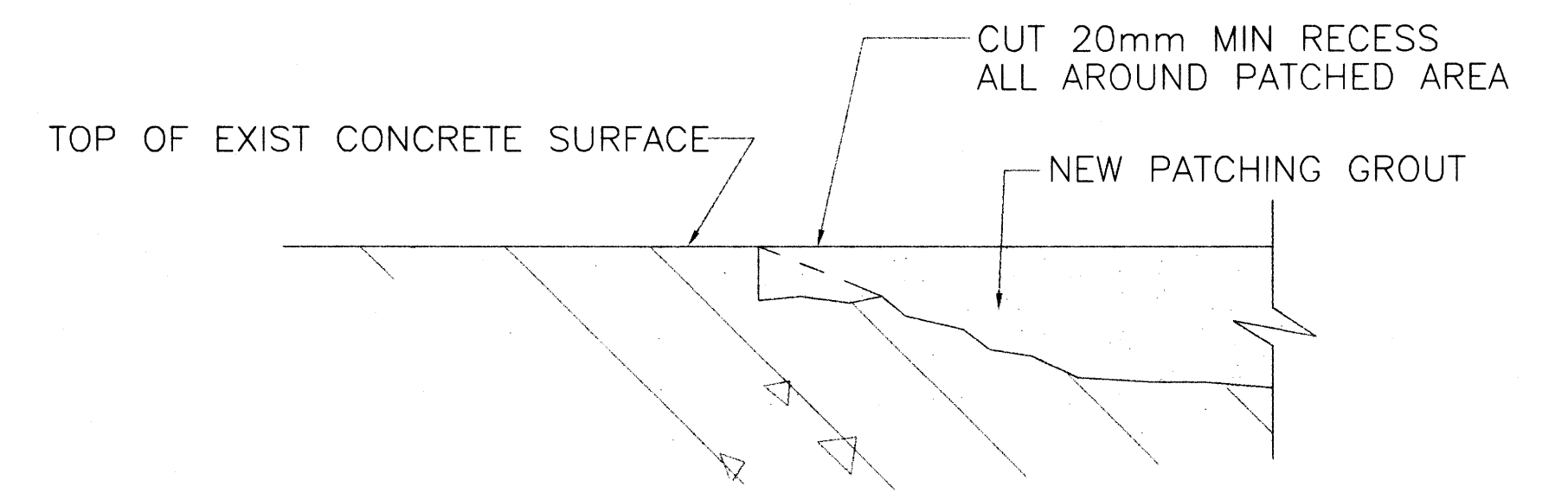


NEW ALUMINUM VENTILATION PIPE DETAIL
SCALE 1 : 20

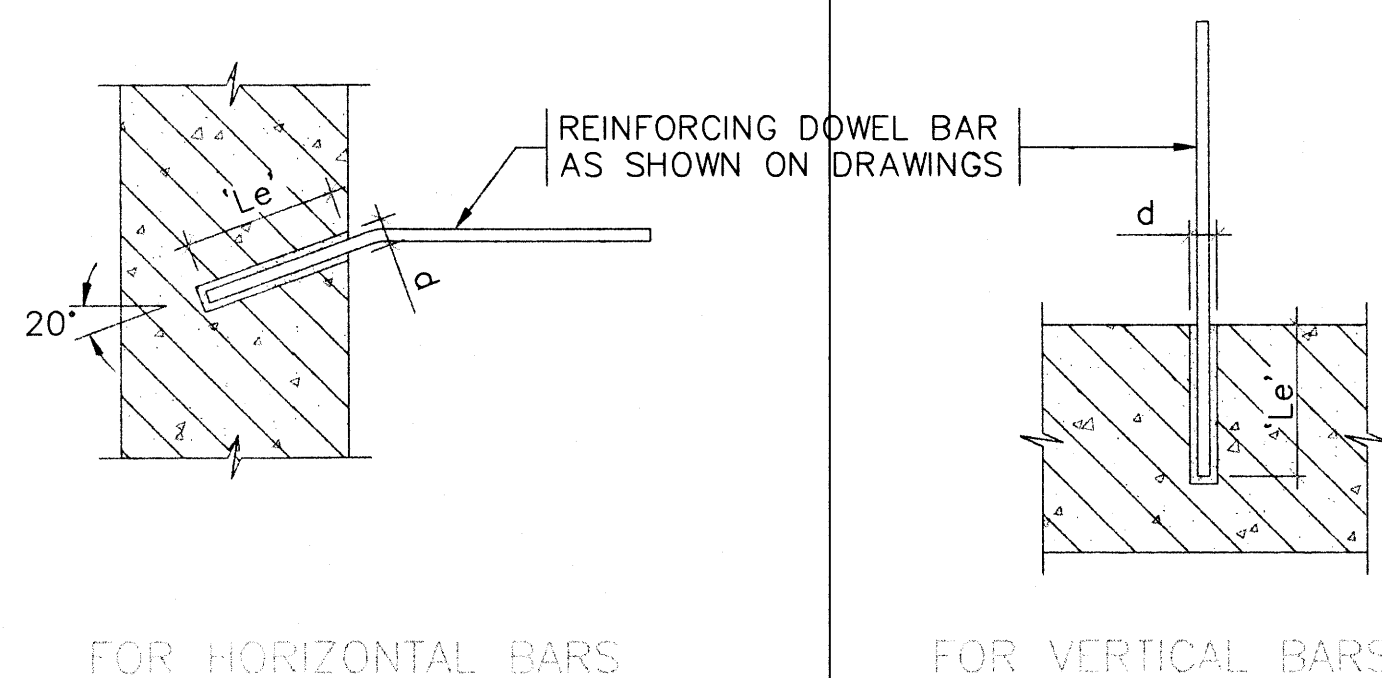
- NOTES:
1. ALL JOINTS ARE WELDED AND SMOOTH FINISHED.
 2. THIS DETAIL APPLIES AT SITES #8 & #9
 3. REFER TO DWG D-7441 FOR V/P REPAIR DETAIL AT SITES #10 & #11



INTERNAL MANHOLE JOINT SEAL WITH GUIDES
NTS



PATCHING DETAIL AT FEATHER EDGES
SCALE : NTS



HYDRAULIC CEMENT GROUT	EPOXY GROUT
d = BAR DIA + 20mm	d AND Le IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
Le : 15M - 200mm	
20M - 250mm	
25M - 300mm	

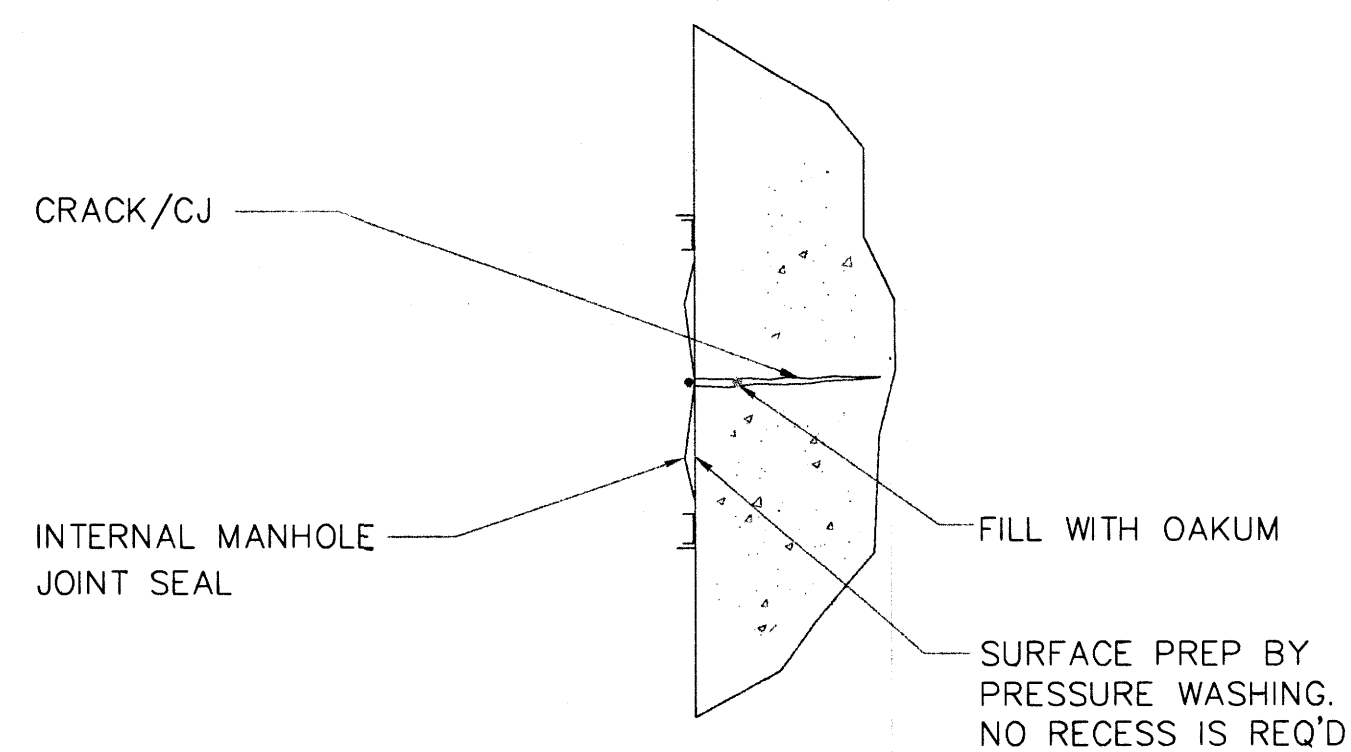
NOTES:

1. DRILL HOLE OF DIAMETER AND DEPTH AS REQUIRED.
2. CLEAN HOLE OF DUST AND DEBRIS.
3. FILL HOLE WITH DOWELLING GROUT.
4. INSTALL REINFORCING DOWEL BAR AND WIPE AWAY OVERFLOW.
5. SECURE DOWEL BAR FIRMLY IN POSITION AND DO NOT DISTURB BAR FOR 3 HOURS AFTER INSTALLATION.

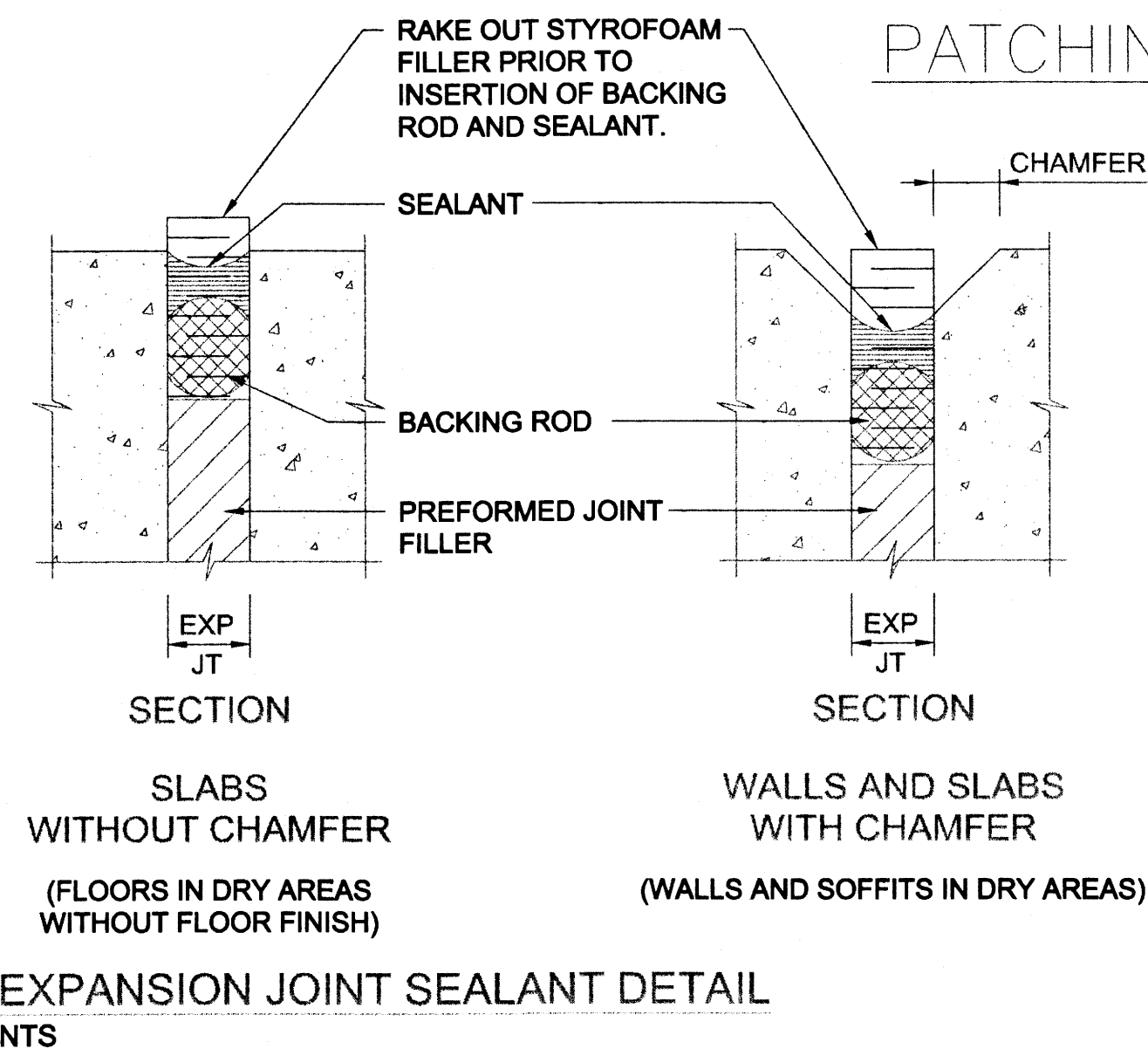
DOWELLING IN EXISTING CONCRETE

LEGEND:

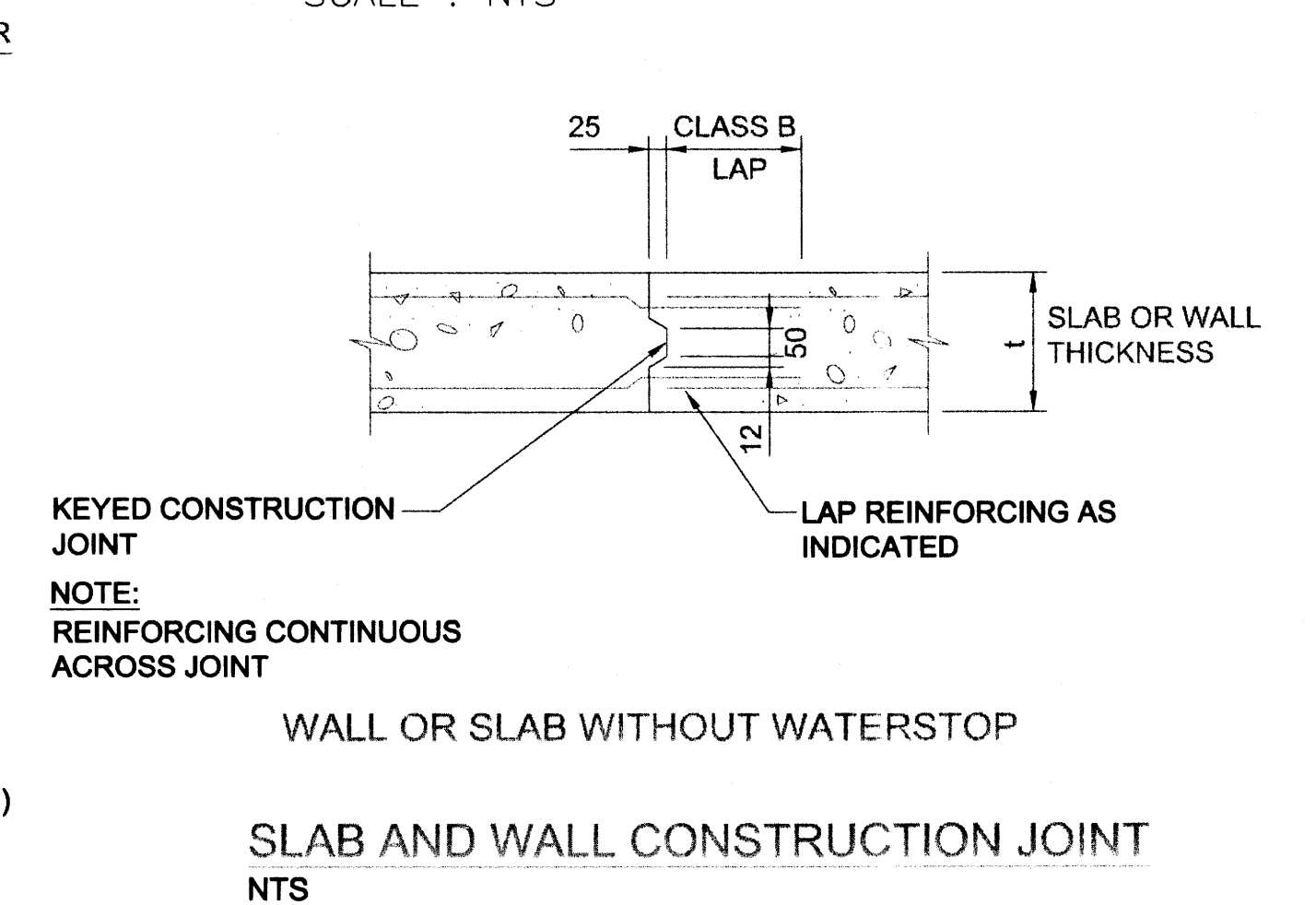
- REMOVE EXIST CONC STRUCTURES
- EXIST STRUCTURE TO REMAIN
- NEW CONCRETE



INTERNAL MANHOLE JOINT SEAL WITHOUT GUIDES
NTS



EXPANSION JOINT SEALANT DETAIL
NTS



TENDER NO. 734-2001

<p>CH2MHILL uma UMA Engineering Ltd.</p>		<p>ENGINEER DATE OF REVIEW 2001/9/16</p>		<p>THE CITY OF WINNIPEG Winnipeg WATER AND WASTE DEPARTMENT</p>	
DESIGNED BY: CK	CHECKED BY: DHG	<p>SHOAL LAKE AQUEDUCT AQUEDUCT AND DRAINAGE SIPHON REPAIRS MILE 82.06 TO MILE 96.77 MISCELLANEOUS MANHOLE AND VENT DETAILS</p>		<p>SHEET 22 OF 26 CITY DRAWING NUMBER D-7448 REV</p>	
DRAWN BY: JC	APPROVED BY: [Signature]	<p>CONSULTANT DRAWING NO. 120355-A1-18062</p>			
<p>NO. REVISIONS DATE BY</p>		<p>HOR SCALE: AS NOTED VERTICAL: -</p>			
<p>DATE: 2001.09.06</p>		<p>DATE: 2001.09.10</p>			